DOCUMENT RESUME

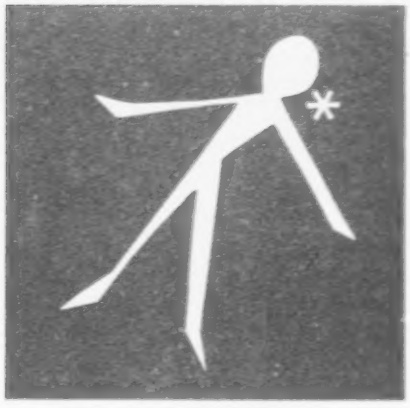
ED 077 178 EC 052 044

AUTHOR	Ward, Ted
TITLE	Variable-Interval Sequenced-Action Camera (VINSAC). Dissemination Document No. 1.
INSTITUTION	Michigan State Univ., East Lansing. Regional Instructional Materials Center for Handicapped Children and Youth.
SPONS AGENCY	Bureau of Education for the Handicapped (DHEW/OE), Washington, D.C.
PUB DATE	[68]
NOTE	5p.; Papers of the Institute No. 40
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Audiovisual Instruction; Cost Effectiveness; *Instructional Media; *Photography; *Teacher Education
IDENTIFIERS	*Variable Interval Sequenced Action Camera (VINSAC)

ABSTRACT

The 16 millimeter (mm) Variable-Interval Sequenced-Action Camera (VINSAC) is designed for inexpensive photographic recording of effective teacher instruction and use of instructional materials for teacher education and research purposes. The camera photographs single frames at preselected time intervals (.5 second to 20 seconds) which are displayed as sequenced pictures, and can be synchronized with a sound recording. Advantages stated are: the cost of raw film is approximately 4% that of standard motion picture equipment, the camera can operate unattended for over one hour, and the materials involve no special laboratory processes. VINSAC films can be displayed by any 16 mm projector equipped for single frame display, and synchronization of film with a tape is achieved with a standard commercial device. Cost of the camera and lens, timer-controller with disguise box, and display unit is approximately $365 to $525. (For related information, see EC 052 045.) (MC)

ED 077178



USOE/MSU
REGIONAL
INSTRUCTIONAL
MATERIALS
CENTER FOR
HANDICAPPED
CHILDREN
AND YOUTH

VARIABLE-INTERVAL SEQUENCED-ACTION CAMERA (VINSAC)

DISSEMINATION DOCUMENT No. 1

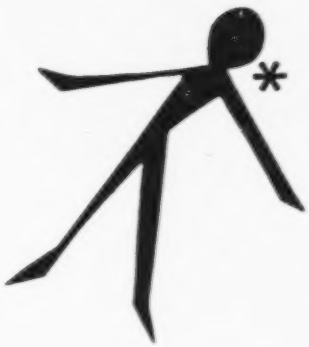
(Papers of the Institute No. 40)

EXAMINATION COPY

Cooperating with State Departments of Education – Michigan-Indiana-Ohio
*Member Instructional Materials Network for Handicapped Children and Youth
U.S. Office of Education – Bureau of Education for the Handicapped

EC 052 044

ED 077178



VARIABLE-INTERVAL SEQUENCED-ACTION CAMERA (VINSAC)

Ted Ward

USOE/MSU Regional Instructional Materials Center for Handicapped Children & Youth

213 Erickson Hall
College of Education
Michigan State University
East Lansing, Michigan 48823

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

The work presented herein was performed pursuant to a Grant from the U.S. Office of Education, Department of Health, Education and Welfare. However, the opinions expressed herein do not necessarily reflect the position or policy of the U.S. Office of Education, and no official endorsement by the U.S. Office of Education should be inferred.

*Member Instructional Materials Network for Handicapped Children and Youth
U.S. Office of Education — Bureau of Education for the Handicapped

Dissemination Documents of the Center #1

Papers of the Institute #40

Joint Publication of the
USOE/MSU Instructional Materials Center
for Handicapped Children and Youth and
the Learning Systems Institute

Variable-Interval Sequenced-Action Camera (VINSAC)

The Variable-Interval Sequenced-Action Camera has been designed for inexpensive photographic recording of classroom teaching. Particular application to the filming of effective use of instructional materials in actual classrooms is planned. The instrumentation proposed is one of a series of technological innovations contributing to more effective representations of the processes of teaching for teacher education students and for teacher behavior researchers. Other devices in this series are the ZAAP (Zone-Automated Audio Pickup) and the PDS (Professional Decision Simulator). Linked with the ZAAP, the VINSAC is capable of producing materials for the SOS (Selective Observation Simulator), described in Papers of the Institute #37 and #41.

Purpose VINSAC produces a series of still photographs, spaced at a pre-selected time interval (from .5 second to 20 seconds). These sequenced pictures, when displayed in synchronization with a continuous high-quality sound recording, provide a representation of the classroom activities. Observation of a sequenced-action film is hypothesized to be of instructional value comparable to a sound-on-film motion picture. Three advantages clearly favor a VINSAC-ZAAP production standard sound-on-film production: 1) the raw-film cost with the VINSAC is approximately 4% or less of the cost of coverage of the same amount of classroom time with a standard motion-picture camera; 2) the operating VINSAC equipment can be left unattended for periods in exeess of one hour; 3) the

duplication of VINSAC-ZAAP materials involve no special laboratory processes--only standard two-track tape duplication and standard print duplication of the film. Synchronization data are permanently on the original tape and all tape copies. One additional advantage is hypothesized for planned research in the Institute: since the leading studies of teaching show that teaching is more a verbally than visually communicated process, a VINSAC-ZAAP production may be a more meaningful communication of teaching than a sound-on-film motion picture. This hypothesis assumes that Travers' conclusions about the desirability of subordinating the less meaning-laden medium validly pertain here.

Description VINSAC is a 16 mm. camera (a standard movie camera of the better home-movie grade) which is rigged to photograph in single-frames. The mechanism is hand-wound to provide about seven hundred frames in a sequence, or is electrified to take about 3,000 frames without any manual operations. The shutter is actuated by a solenoid. The solenoid controlled by a variable-frequency electronic timer which can be externally set to provide intervals as short as .5 second or as long as 20 seconds. This same timing device also produces the signal which, recorded on the audio tape, becomes the synchronization cue for the display VINSAC system. Other VINSAC camers can be simultaneously controlled by the one timer unit.

Depending upon the application to be photographed the camera is fitted with any of a wide assortment of C-mount lenses. For example, for a typical class-room-wide view, the camera uses a 12 to 15 mm. (wide-angle lens), one is located in a wall mounted disguise-box above the blackboard behind the teachers' desk. Thus the photographs typically show the face-view and desks of all the pupils except the front row left and right ends. (The disguise-box is approximately one cubic foot in size).

The film can be selected for black-and-white or color coverage of the classroom at very little difference in cost. The better quality lenses available for this system allow "available light" photography at light levels typical in the classroom. The higher speed films allow for a greater depth-of-field and/or operation of the camera at faster shutter speeds (thus making more crisp photographs).

Display System The VINSAC films can be displayed by any 16 mm. projector equipped for single-frame display. Several suitable units are commercially available. A variety of applications are to be described in other Institute publications. A major motive of the VINSAC development is the production of low cost photographic representation of unstaged classroom activities suitable as the basic content for training simulators. The Selective Observation Simulator is the first of these and is described in Papers of the Institute #41.

The synchronization of a VINSAC film with a ZAAP tape is controlled by a standard commercial device which detects the cuing signal from the circuit of the tape-recorder playback and triggers a frame-advance impulse to the single-frame 16 mm. projector. All processes associated with the playback and synchronized VINSAC display are handled by commercially available equipment.

Costs Preliminary experiments have shown that the low-cost features anticipated for VINSAC are going to be realized. The filming costs compare to simple motion-picture production costs in the rates 1 to 25. The adopted camera and lens costs from $150 to $200 and the timer-controller with disguise-box costs another $75 to $125. The commercial units for display of the completed pictures range from $140 to $200. These costs do not cover display booth, simulator logic controls and peripheral gear, nor do they reflect recording and playback synchronize costs.

Ted Ward, Associate Director for Research
November 1966